AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An electrolytic processing apparatus, comprising:

a substrate holder for holding a substrate;

a first electrode to make contact with the substrate for passing electricity to a processing surface of the substrate;

an electrode head including a high resistance structure and a second electrode, disposed opposite to and in this order from the substrate holder, and a polishing surface facing the processing surface of the substrate held by the substrate holder;

an electrolytic solution injection portion for injecting an electrolytic solution between the processing surface of the substrate held by the substrate holder and the second electrode;

a relative movement mechanism for moving the substrate holder and the electrode head relative to each other such that, during electroplating of the processing surface of the substrate, the substrate holder and the electrode head are arranged to provide a space between the processing surface of the substrate and the polishing surface, and such that, during electrolytic etching of the processing surface of the substrate, the substrate holder and the electrode head are arranged so that the polishing surface rubs the processing surface of the substrate;

a press mechanism including a compression spring arranged to apply a continuous elastic force between the relative movement mechanism and the electrode head so as to press the polishing surface of the electrode head against the substrate held by the substrate holder; and

a power source for applying a voltage between the first electrode and the second electrode, the power source being capable of selectively switching the direction of electric current such that, during electroplating of the processing surface of the substrate, the first electrode serves as a cathode and the second electrode serves as an anode, and such that, during electrolytic etching of the processing surface of the substrate, the first electrode serves as an anode and the second electrode serves as a cathode;

wherein the relative movement mechanism includes a pivot arm operable to move vertically, the press mechanism further including a first plate attached to the pivot arm, and a second plate connected to the first plate by a stopper for guiding movement of the second plate relative to the first plate, the compression spring being arranged between the first plate and the second plate.

2. (Previously Presented) The electrolytic processing apparatus according to claim 1, wherein the polishing surface comprises an exposed surface of a polishing pad attached to the substrate-facing surface of the high resistance structure.

3. (Previously Presented) The electrolytic processing apparatus according to claim 2, wherein the polishing pad is made of a flexible and durable woven fabric, non-woven fabric, resin or resin foam.

4. (Previously Presented) The electrolytic processing apparatus according to claim 1, wherein the polishing surface comprises an exposed surface of a polishing pad supported by a support.

5. (Previously Presented) The electrolytic processing apparatus according to claim 4, wherein the polishing pad is made of a flexible and durable woven fabric, non-woven fabric, resin or resin foam.

6. (Previously Presented) The electrolytic processing apparatus according to claim 1, wherein the polishing surface comprises the lower surface of the high resistance structure which has undergone partial or entire modification or surface treatment.

7. (Previously Presented) The electrolytic processing apparatus according to claim 1, wherein the press mechanism is capable of adjusting a pressing force applied to the processing surface of the substrate by adjusting the biasing force of the compression spring.

8. (Previously Presented) The electrolytic processing apparatus according to claim 1, wherein the electrolytic solution is a plating solution or a solution of a plating solution containing an acidic solution.

9. (Currently Amended) An electrolytic processing apparatus, comprising:

a substrate holder for holding a substrate with its processing surface facing upward;

a first electrode to make contact with the substrate for passing electricity to the processing surface of the substrate;

an electrode head including a high resistance structure and a second electrode disposed above the high resistance structure, both disposed above the substrate holder, and a polishing surface facing the processing surface of the substrate held by the substrate holder;

an electrolytic solution injection portion for injecting an electrolytic solution between the processing surface of the substrate held by the substrate holder and the second electrode;

a relative movement mechanism for moving the substrate holder and the electrode head relative to each other such that, during electroplating of the processing surface of the substrate, the substrate holder and the electrode head are arranged to provide a space between the processing surface of the substrate and the polishing surface, and such that, during electrolytic etching of the processing surface of the substrate, the substrate holder and the electrode head are arranged so that the polishing surface rubs the processing surface of the substrate;

a press mechanism including a compression spring arranged to apply a continuous elastic force between the relative movement mechanism and the electrode head so as to press the polishing surface of the electrode head against the substrate held by the substrate holder; and

a power source for applying a voltage between the first electrode and the second electrode, the power source being capable of selectively switching the direction of electric current such that, during electroplating of the processing surface of the substrate, the first electrode serves as a cathode and the second electrode serves as an anode, and such that, during electrolytic etching of the processing surface of the substrate, the first electrode serves as an anode and the second electrode serves as a cathode;

wherein the relative movement mechanism includes a pivot arm operable to move vertically, the press mechanism further including a first plate attached to the pivot arm, and a second plate connected to the first plate by a stopper for guiding movement of the second plate relative to the first plate, the compression spring being arranged between the first plate and the second plate.

10. (Previously Presented) The electrolytic processing apparatus according to claim 9, wherein the polishing surface comprises an exposed surface of a polishing pad attached to the substrate-facing surface of the high resistance structure.

11. (Previously Presented) The electrolytic processing apparatus according to claim 10, wherein the polishing pad is made of a flexible and durable woven fabric, non-woven fabric, resin or resin foam.

12. (Previously Presented) The electrolytic processing apparatus according to claim 9, wherein the polishing surface comprises an exposed surface of a polishing pad supported by a support.

13. (Previously Presented) The electrolytic processing apparatus according to claim 12, wherein the polishing pad is made of a flexible and durable woven fabric, non-woven fabric, resin or resin foam.

14. (Previously Presented) The electrolytic processing apparatus according to claim 9, wherein the polishing surface comprises the lower surface of the high resistance structure which has undergone partial or entire modification or surface treatment.

15. (Previously Presented) The electrolytic processing apparatus according to claim 9, wherein the press mechanism is capable of adjusting a pressing force applied to the processing surface of the substrate by adjusting the biasing force of the compression spring.

16. (Previously Presented) The electrolytic processing apparatus according to claim 9,wherein the electrolytic solution is a plating solution or a solution of a plating solution containing an acidic solution.

Claims 17-27 (Cancelled).

28. (Previously Presented) The electrolytic processing apparatus according to claim 12, wherein the electrode head further includes a housing, the high resistance structure being arranged within a chamber and having a peripheral portion held by the housing under the second electrode, the support being arranged so as to close a lower opening of the housing, and the polishing pad being attached to a lower surface of the support.

29. (Previously Presented) The electrolytic processing apparatus according to claim 1, wherein the substrate holder is fixed in position, and the relative movement mechanism is connected to the electrode head so as to be operable to move the electrode head including the polishing surface toward and away from the substrate held by the stationary substrate holder.

30. (Previously Presented) The electrolytic processing apparatus according to claim 9, wherein the substrate holder is fixed in position, and the relative movement mechanism is connected to the electrode head so as to be operable to move the electrode head including the polishing surface toward and away from the substrate held by the stationary substrate holder.

Claim 31 (Cancelled).

32. (Currently Amended) The electrolytic processing apparatus according to claim ~~31~~ 1, wherein the second plate of the press mechanism is connected to a housing of the electrode head by a ball bearing.

Claim 33 (Cancelled).

34. (Currently Amended) The electrolytic processing apparatus according to claim ~~33~~ 9, wherein the second plate of the press mechanism is connected to a housing of the electrode head by a ball bearing.